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Author(s): Barbara R. Schirmer, Jay Casbon and Lindy L. Twiss

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# DIVERSE LEARNERS IN THE CLASSROOM

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Editors: Barbara R. Schirmer

Jay Casbon

Lewis & Clark College, Portland, Oregon, USA

Lindy L. Twiss

Tumwater School District, Tumwater, Washington, USA

## Teacher beliefs about learning: What happens when the child doesn't fit the schema?

In the past 5 years, Lindy has taught elementary and junior high school students identified as needing special education services, trained and served as a reserve officer in the police department where she lives, learned to fly an airplane, developed the knowledge and skills to be a competitive equestrian, and become a professional magician. In the past 5 years, Jake has been assessed by five multidisciplinary teams, two physicians, and two educational consultants in an effort to develop an educational program that would enable him to benefit from classroom instruction. Lindy moves frequently among a variety of activities. Jake does, too. Lindy's friends and colleagues describe her as an accomplished and successful person with many interests. Jake's family and teachers describe him as hyperactive, distractible, and unable to finish anything well. Lindy describes herself as hyperactive. Jake describes himself as bored most of the time.

When Lindy became Jake's teacher, she examined his cumulative file and most recent Individualized Education Program. She felt that she understood his learning needs because they seemed so much like her own. The information

she gleaned about Jake's reading abilities indicated that although he demonstrated specific difficulties in areas such as word recognition and comprehension monitoring, the major issues that influenced his reading achievement seemed to be attitude and motivation. Lindy considered herself a whole language teacher who believed that children learn to become literate by reading works of high quality and by having the opportunity to respond to their reading through discussion and writing.

In the weeks that passed in her class, Lindy found that Jake was disruptive during her reading block, engaged only for brief periods with the stories and novels he chose to read, and responded very little either in writing or conversation. Realizing that Jake needed more external structure, frequent rewards, and concrete indicators of success than her teaching model was providing, Lindy began asking Jake to read very short stories and then to answer a set of questions about each. Each high-interest, low-reading-level story took only 10 or 15 minutes to read. When he completed the questions, he charted his success. This instruction didn't feel like whole language teaching to Lindy, but

Jake's interest and motivation improved dramatically.

The beliefs that teachers hold about how children learn are reflected in the models and strategies they use to help children become readers and writers. These beliefs, both positive and negative, probably originate in the ways teachers are parented. Our teacher education programs then reinforce, and sometimes even indoctrinate, beliefs that become increasingly internalized. In this column, we explore what happens when teacher beliefs about learning are challenged by children like Jake who do not fit the teacher's schema.

Teachers in preparation are encouraged to analyze, clarify, and enrich their beliefs about learning based on current theory and practice. Most developmental reading and language arts texts, for example, begin with a discussion of teaching philosophies and ask the reader to "understand the need to develop a personal definition of literacy" (Lapp & Flood, 1992, p. 4), examine "the relationship between teachers' beliefs and practices" (Finn, 1993, p. 2), "begin to identify your basic perspective" (Manzo & Manzo, 1995, p. 52), and recognize that "your view of

reading—the factors involved, their relative importance, and the way the process takes place and develops—will have a direct and significant impact on your decision making” (Leu & Kinzer, 1995, p. 7).

Beliefs about learning are viewed as essential and positive because they form the foundation for instructional decisions. But what happens when teacher beliefs are challenged as Lindy’s were challenged when Jake was not succeeding with her instructional strategies? To explore this issue, we will use schema theory because it provides a structure for understanding cognitive organization and adaptation.

According to schema theory, knowledge is cognitively organized as schemata, which are frameworks for interpreting, storing, and retrieving information and experiences (Rumelhart, 1980). When new information or a new experience is presented, the individual uses background knowledge to make sense of it. Information or experience that fits well into the individual’s previous information and experiences is readily accepted. Piaget (1952) referred to this cognitive adaptation as assimilation; that is, the schema assimilates the information. For example, Lindy had taught many children who had blossomed as readers when she offered them opportunity to choose their own material and ways of responding. Her instructional models were effective in helping these children learn to read, and these experiences assimilated into Lindy’s schema about effective literacy instruction.

When new information or a new experience is not a compatible fit, but the information or experience is somewhat similar, the schema may change to accommodate it. According to Piaget, accommodation, or the adaptation of existing knowledge structures in light of new information, results in cognitive growth. For example, Lindy found that some children responded more positively when she offered them several pieces of reading material from which they could choose, sometimes interrupted their reading to teach mini-lessons on reading skills or vocabulary with which they were struggling, and gave them specific guidelines or suggestions for responding. Her schema about effective literacy instruction ac-

commodated her experiences with these children.

When new information or a new experience does not fit at all into the individual’s schema, the information can either be ignored or the individual can undergo schema restructuring. It takes a preponderance of information or a cogent experience for an individual to discard a schema and replace it. Those who ignore conflicting information are sometimes accused of being in denial, but this denial enables them to hold onto their existing schema. For example, Lindy used her original teaching model with Jake for a number of weeks; she acted on her belief about the type of instruction that fosters literacy development. It was only after a substantial amount of observation and discussion with Jake that she realized her model was not appropriate for him. The teaching model that Lindy ultimately decided to try with Jake is an example of schema restructuring because it did not fit at all into her original belief about how to help children become literate.

Schema theory helps explain why it is often so difficult for teachers to change their models and strategies for teaching reading and writing. Challenges to teacher beliefs come from many sources—public policy makers, parents, researchers, other teachers, and, most often, children themselves. Diverse learners are particularly challenging to teacher beliefs. Children who are diagnosed as Attention-Deficit/Hyperactivity Disorder (ADHD) are one such group of diverse learners.

According to the *Diagnostic and Statistical Manual of Mental Disorders, 4th edition DSM-IV* (American Psychiatric Association, 1994), the “essential feature of Attention-Deficit/Hyperactivity Disorder is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequent and severe than typically observed in individuals at a comparable level of development” (p. 78). Prevalence is estimated at 3-5% of school-age children. Although much of the literature on ADHD has focused on behavior management (e.g., Hocutt, McKinney, & Montague, 1993; Lerner, Lowenthal, & Lerner, 1995), we will consider the implications of behavior on literacy learning. According to the DSM-IV, children

with ADHD may ignore details, make careless mistakes in schoolwork, turn in messy work, have difficulty sustaining attention to tasks, frequently shift from one uncompleted activity to another, have difficulty organizing tasks, strongly dislike activities that “demand sustained self-application and mental effort or that require organizational demands or close concentration” (p. 78), frequently lose materials needed for a task, have difficulty remaining seated, fidget with objects, have difficulty awaiting their turn, fail to listen to directions, or be easily distracted.

These behavioral characteristics have implications for literacy development. Teachers who believe in whole language principles may find that children with ADHD enjoy self-selection of reading materials and writing topics, appreciate being able to choose their physical position for reading and writing, and value the opportunity for moving from one activity to another. On the other hand, these children may rarely complete reading a text before starting another one, may not want to revise any piece of writing, or may have difficulty attending when classmates take their turns in the Author’s or Reader’s Chair.

Teachers who believe in skills-based approaches may find that children with ADHD appreciate the segments of time spent on word analysis and enjoy the structure of clear expectations for producing a written product. On the other hand, children with ADHD may have difficulty attending to activities designed to provide practice in new skills, may not want to complete teacher-selected texts or writing assignments, and may be evaluated incorrectly because the work they turn in is not an accurate reflection of their abilities.

When teacher beliefs about instruction and student performance conflict, the teacher must somehow make sense of the new information and experience. If the child with ADHD is making adequate progress in literacy development, the teacher’s schema about how children become literate can assimilate the information. The belief can stay intact because the child is making progress. However, by focusing on the child’s ability to function adequately within the teacher’s instructional models and strategies, the teacher may be ignoring

issues that create difficulty for the child, issues that may become more serious over time. Jake's problems in school were not limited to literacy development, and they did not emerge overnight. When Lindy first met him, the progress reports in his cumulative file indicated that Jake's previous teachers had not targeted literacy as an area of special need.

If the child with ADHD is not making adequate progress, the teacher's schema can accommodate the information. But this involves a willingness to recognize the significance of the new information and the vulnerability of the teacher's beliefs. The teacher must be willing to modify his or her notions of how to help children become literate in order to accommodate the child's learning strengths and needs. Perhaps Lindy's ability to change her teaching model with Jake represents this type of flexibility more than schema restructuring, but she certainly reconsidered her beliefs about what constitutes best practice in the reading/writing classroom.

Instead of assimilating or accommodating, the teacher's schema can remain static and the new information can be ignored. This allows the belief to remain constant, but the child who is experiencing difficulty is viewed as the problem. In his cumulative file, Jake's behavior was frequently cited as the reason for his low academic achievement.

Finally, the teacher can reexamine his or her belief and find that it needs to be discarded in favor of a new paradigm for instruction. Lindy has no phrase or name to capture her current belief about the type of learning and teaching that promotes Jake's literacy development, but sometimes she thinks of it as "eclectic whole language."

We are not suggesting that teachers discard their instructional beliefs because some children are not succeeding in their classrooms. We are suggesting, however, that teachers pay close attention to diverse children, such as children with ADHD, who may not thrive in a classroom environment that is so strongly rooted in a belief about learning that there is no room for flexibility. The inherent problems of literacy instruction driven by materials or methodology are the same as literacy instruction that is driven by philosophy, if the philosophy cannot embrace all of the children in our classrooms.

Teachers can examine their beliefs about learning, analyze how and why the beliefs support literacy learning, and make modifications in their instruction that support the literacy development of diverse children. The teacher with a whole language philosophy can provide children with ADHD opportunities to revise their writing using computers rather than by hand, offer selected choices during activities that require sustained attention, and develop organizational aids and motivational systems for helping the children complete their work.

The teacher with a skills-based philosophy can offer children with ADHD opportunities to engage in self-selected activities, provide extra time to complete formal tests, modify instructions when needed, and incorporate peer tu-

toring and collaborative learning. Ultimately, if the modifications depart so strongly from the teacher's belief that either the belief or the child have to change, the teacher should consider restructuring his or her schema for a belief that embraces the learning needs of all children in the classroom.

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The Diverse Learners in the Classroom department offers suggestions for supporting all children's literacy learning. The department editor, **Barbara Schirmer**, may be contacted at **Lewis and Clark College, Campus Box 93, 0615 3W Palatine Hill Road, Portland, OR 97219-7899, USA.**